

REMARKS

Claims 22-37 and 39-42 remain pending and under current examination. Applicants traverse the rejections set forth in the Final Office Action<sup>1</sup>, wherein the Examiner:

- (a) rejected claims 22-33, 41, and 42 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,221,873 ("Bock") in view of U.S. Patent App. Pub. No. 2003/0163555 ("Battou") and U.S. Patent App. Pub. No. 2004/0015614 ("Tonietto");
- (b) rejected claims 34-36 under 35 U.S.C. § 103(a) as being unpatentable over Bock, Battou, and Tonietto, and further in view of U.S. Patent App. Pub. No. 2004/0076168 ("Patenaude"); and
- (c) rejected claims 37, 39, and 40 under 35 U.S.C. § 103(a) as being unpatentable over Bock, Battou<sup>2</sup>, and Tonietto, and further in view of U.S. Patent App. Pub. No. 2004/0258058 ("Heston").

Regarding the 35 U.S.C. § 103(a) Rejection of Claims 22-33, 41, and 42

Applicants request reconsideration and withdrawal of the rejection of claims 22-33, 41, and 42 under 35 U.S.C. § 103(a) as being unpatentable over Bock in view of Battou and Tonietto. Applicants maintain the reasoning of record in the Amendment filed on November 25, 2008, regarding Bock and Tonietto, and note that the deficiencies of these references still stand, despite the application of newly cited Battou.

The Examiner has not properly resolved the *Graham* factual inquiries, the proper resolution of which is the requirement for establishing a framework for an objective obviousness analysis. See M.P.E.P. § 2141(II), citing to *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), as reiterated by the U.S. Supreme Court in *KSR International Co. v. Teleflex Inc.*,

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<sup>1</sup> The Final Office Action contains statements characterizing the related art and the claims. Regardless of whether any such statements are specifically identified herein, Applicants decline to automatically subscribe to any statements in the Final Office Action.

<sup>2</sup> At item 5 of the Final Office Action, the Examiner listed U.S. Patent No. 6,809,258 B1 ("Dang") in place of Battou. Applicants note that Dang was withdrawn as a reference in the Final Office Action, and therefore understand this to be a typographical error incorrectly copied from the July 25, 2008, Office Action which listed Dang in the rejection of claims 37-40. Applicants therefore treat this rejection as if the Examiner meant to list Battou instead of Dang.

550 U.S. \_\_\_, 82 USPQ2d 1385 (2007). Specifically, the Examiner has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the claimed invention, at least because he has not interpreted the prior art and considered *both* the invention *and* the prior art *as a whole*. See M.P.E.P. § 2141(II)(B).

Particularly, each of the cited references, taken alone or in combination, fails to teach or suggest at least Applicants' claimed:

wherein the at least one second card further includes a control unit and a *dynamically configurable electronic switch*, wherein the control unit is configured to program the electronic switch according to a number of predetermined switch configurations and based on instructions received from one of the plurality of electro-optical components or from an external device (claim 22, emphasis added).

As quoted above, the "electronic switch" provided on "the at least one second card" is "*dynamically configurable*," (claim 22, emphasis added). These features are clearly explained in the Applicants' specification at, for example, the passages quoted below:

the interchangeable electro-optical components are hot pluggable/unpluggable into/from the at least one socket of the second card (page 9, lines 12-14);

[t]he at least one second card may further include a configurable electronic switch for routing the converted electrical signals received from the at least one socket towards the electronic circuitry and for routing the converted electrical signals treated by the electronic circuitry towards the at least one socket (page 10, lines 3-8);

the control unit is capable of detecting the presence of an electro-optical component in the socket and to automatically configure the electronic switch according to one of a number of predetermined switch configuration patterns (page 10, lines 13-17).

Since the electro-optical components are hot pluggable/unpluggable into/from the at least one socket of the second card, and since the control unit is capable of detecting the presence of

an electro-optical component in the socket and of automatically configuring the electronic switch, it follows that it is possible to hot plug/unplug electro-optical components, and as a consequence of plugging/unplugging one or more electro-optical components, the control unit dynamically reconfigures the electronic switch so as to adapt it to the new configuration of the second card.

The claim language quoted above is further described in other parts of Applicants' specification at, for example, page 34, line 23 – page 35, line 19 (emphases added), which states:

[r]eferring back to Fig.4A, the TXT card base structure 400 is further equipped by a microprocessor/microcontroller 435 for controlling and properly configuring the switch device 425 (so as to implement any one of a set of prescribed routings of the electrical signals to/from the sockets) and the electronic circuitry 428, particularly the circuitry 430 (so as to execute the desired multiplexing/de-multiplexing of electrical signals), by means of configuration instructions.

The TXT card base structure 400 further includes electrical connections between the sockets 405 - 420 and the microprocessor/microcontroller 435, for enabling the communication between the microprocessor/microcontroller 435 and the transceiver or transceivers, when the latter are plugged into the sockets. To this purpose, it is observed that the electronic circuitry 530 of the transceivers 500 is preferably such that, when the transceiver is plugged into one of the sockets 405 - 420, the microprocessor/microcontroller 435 can acknowledge the presence of the transceiver and, possibly, recognize the type of transceiver by reading transceiver characteristic parameters (such as the operating wavelengths supported by the optical devices and the range of bit rates supported by the electronic circuitry 530). The microprocessor/microcontroller 435 can, for example, exploit these data to properly configure the switch device 425 and/or the FPGA 430.

The claim language quoted above is still further described in other parts of Applicants' specification at, for example, on page 36, lines 5-15, which states:

[t]he TXT card base structure 400 can be hardware and software configured: the structure is hardware configurable by plugging

different types and a different number of transceivers 500 into the four sockets 405 - 420; additionally, the TXT card base structure 400 is software configurable, by the microprocessor/microcontroller 435, which controls the operations on the TXT card base structure 400. In this way, the TXT card base structure 400 is suitable to realize a variety of different TXT cards, which can perform several different functions.

Finally, the claim language quoted above is even further described in other parts of Applicants' specification at, for example, on page 53, line 24 – page 54, line 9 (emphases added), which states:

the present invention provides a network node structure having multiple levels of configurability; particularly, two levels of configurability are provided: a first level of configurability is ensured by the provision of card base structures, such as the TXT card base structure 400, that can be variably equipped with components and configured so as to perform different functions; a second level of configurability derives from the possibility of exploiting different numbers and types of cards, depending on the needs. Thanks to this structure, the flexibility of the node 105i of the network is significantly increased. In particular, hot-pluggability of the transceivers into the sockets of the TXT and MTX cards allows configuring the node 105i in an easy way . . .

The Final Office Action relied on Battou to allegedly teach the claimed "control unit" and "dynamically configurable electronic switch." See Final Office Action, pp. 4-5. In particular, according to the Final Office Action, the claimed "control unit" allegedly corresponds to the control FPGA 1544 shown in Fig. 15 of Battou, and the claimed "dynamically configurable electronic switch" allegedly corresponds to the FPGA 1540 shown in Fig. 15 of Battou. See *id.*

However, Battou does not teach or suggest at least that "the control unit is configured to program the electronic switch according to a number of predetermined switch configurations and based on instructions received from one of the plurality of electro-optical components or from an external device," as recited in independent claim 22. Moreover, Battou does not teach or suggest the possibility of reprogramming, particularly dynamically reprogramming, the FPGA 1540 on

the fly, *i.e.*, under normal working conditions of the unit (*e.g.*, when the structure of the Gigabit Ethernet Access Line Interface module of Battou's Fig. 15 changes).

In the paragraphs of Battou cited by the Final Office Action, and particularly in para. [0181], it is only stated that the control FPGA 1544 communicates with the Line Card Manager and also provides control signals to the FPGA 1540. This, however, does not teach or suggest that the control FPGA 1544 of Battou is configured to dynamically program the FPGA 1540. Additionally, Battou does not teach or suggest that by reprogramming the FPGA 1540, the function of the Access Line Interface changes, compared to the original functionality. Moreover, from para. [0182] it can be derived that all the functions of the Access Line Interface are already available from the beginning, and no teaching or suggestion exists that by reprogramming the FPGA 1540, the Access Line Interface could be caused to operate as a different transponder.

Thus, Bock, Battou, and Tonietto, taken alone or in any combination, do not render obvious Applicants' independent claim 22. The Final Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the claimed invention. In view of the reasoning presented above, Applicants therefore submit that independent claim 22 is not obvious over Bock, Battou, and Tonietto, taken alone or in any combination, and claim 22 should therefore be allowable. Dependent claims 23-33, 41, and 42 should also be allowable at least by virtue of their dependence from base claim 22. Accordingly, Applicants request withdrawal of the 35 U.S.C. § 103(a) rejection.

**Remaining 35 U.S.C. § 103(a) Rejections**

Applicants request reconsideration and withdrawal of the rejections of claims 34-37, 39, and 40 under 35 U.S.C. § 103(a) as being unpatentable over Bock in view of Battou, in view of Tonietto, and further in view of Patenaude or Heston.

As discussed in the previous section, the cited references do not render obvious Applicants' independent claim 22, at least because the Examiner has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the claimed invention. In particular, the cited references do not teach or suggest at least the above-quoted elements of Applicants' independent claim 22. Applicants maintain their reasoning of record in the Amendment filed on November 25, 2008, regarding Patenaude and Heston, and note that the deficiencies of these references still stand, despite the application of newly cited Battou.

For at least the above reasons, Applicants' independent claim 22 is not obvious over the cited references, and should therefore be allowable. Dependent claims 34-37, 39, and 40 should be allowable at least by virtue of their dependence from base claim 22. Applicants therefore request withdrawal of the 35 U.S.C. § 103(a) rejection.

**Conclusion**

Applicants respectfully request consideration of this Request for Reconsideration after Final. Claims 22-37 and 39-42 are in condition for allowance. This Request for Reconsideration after Final should allow for immediate and favorable action.

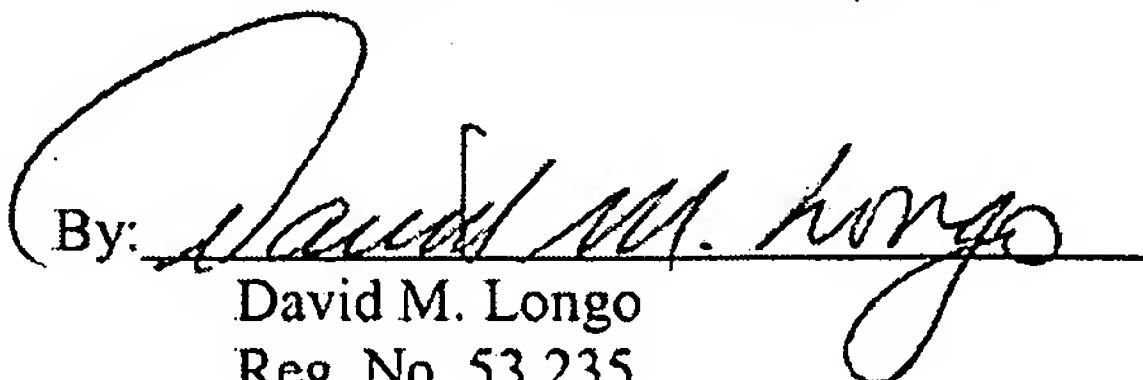
If there are any remaining issues or misunderstandings, Applicants request the Examiner telephone the undersigned representative to discuss them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: July 13, 2009

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